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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,292	10/25/2001	Frederick M. Morgan	C1104.70089US00	1752
23628 7590 03/14/2008 WOLF GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206				
EXAMINER				
A. MINH D				
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2821				
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03/14/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/040,292

Applicant(s)

MORGAN ET AL

Examiner

Minh D. A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/07/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14, 15, 17, 20, 23-25, 27-36, 38-62, 74 and 75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-15, 17, 23-25, 33-36, 38, 39, 42-53, 55-60, 74 and 75 is/are allowed.
- 6) ☒ Claim(s) 18-20, 27-29 and 32 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is a response to the Applicants' filing on 10/25/01 and an amendment dated 12/07/07. In virtue of this filing and this amendment,

- Claims 12, 14-15, 17-20, 23-25, 27-36, 38-62 and 74-75 are pending in this application.

Claim Rejections - 35 USC § 103

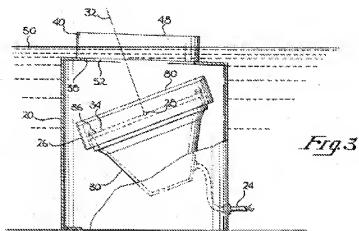
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Robinson et al (U.S. Patent No: 4,661, 893) in view of Hei (U.S. Patent No. 5,301,090).

Regarding claim 27, Robinson et al disclose in figure 3, below that, an apparatus, comprising: at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa, the at least one light source, Col. 3, lines 63-67 and col. 4, lines 7-8 and col. 6, lines 20-26.

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*Fig. 3*

Robinson et al do not clearly disclose the light source including a LED and at least one controller coupled to the at least one light source to control radiation output by the at least one light source.

Hed discloses a controller (83) coupled to the at least one light source (74, 75 and 76)(LEDs) to control radiation output by the at least one light source(LED) See figure 5 below and col.11, lines 1-26.

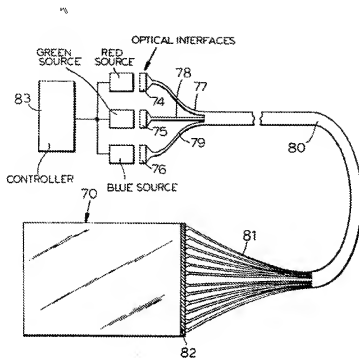


FIG.5

It would have been obvious to one having ordinary skill in the art to employ the controller (85) for controlling a different colors (light sources) in Reference of Hed in the lighting system of Reference of Robinson et al to achieve the claimed invention. As disclosed in Reference of Hed, the motivation for the combination would be obtained the high performance for the under water lighting system.

Regarding claim 28, Robinson et al and Hed further disclose in claim 27, wherein the at least one controller is adapted to control a color of the radiation output by the at least one light source.

Regarding claim 29, Robinson et al and Hed further disclose in claim 27, wherein the at least one controller is adapted to control an intensity of the radiation output by the at least one light source.

Regarding claim 32, Robinson et al and Hed further disclose in claim 27, the at least one LED includes at least a first LED and a second LED, the first and second LEDs having different colors; and the at least one controller is adapted to control a first intensity of the first LED and a second intensity of the second LED.

4. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Robinson et al (U.S. Patent No: 4,661, 893) in view of Hei (U.S. Patent No. 5,301,090) as applied to claim 27 above, and in view of Squibb (U.S. Patent No. 5,499,184).

Regarding claim 30, Robinson et al and Hei obviously discloses all of limitations except the at least one control signal includes at least one pulse width modulated signal.

Squibb discloses the PWM (34) for control the at least one control signal . See figure 1. It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ the PWM (34) for control the at least one control signal such as that suggested by Squibb in the lighting system of Robinson et al and Hei in order to modulate current through the light source at the PWM frequency.

3. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Robinson et al (U.S Patent No: 4,661, 893) in view of Hei (U.S. Patent No. 5,301,090) and Nau (U.S. Patent No. 5,681, 105).

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Regarding claim 18, Robinson et al in figure 3 above that, at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa, the at least one light source including at least one LED, and an interface coupled to the at least one light source, the interface (means) being adapted to engage mechanically and electrically with a conventional light socket supported by the one of the pool and the spa, and the interface is adapted to engage mechanically and electrically with type light socket. Col.3, lines 63-67 and col.4, lines 7-8 and col.6, lines 20-26).

Robinson et al do not teach that, wherein the light source including at least one LED and the conventional light socket includes a screw type light socket.

Hed discloses a controller (83) coupled to the at least one light source (74, 75 and 76) to control radiation output by the at least one light source(LED) See figure 5 below and col.11, lines 1-26.

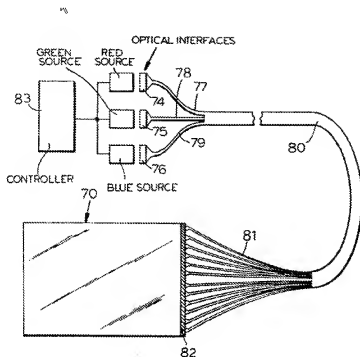


FIG.5

It would have been obvious to one having ordinary skill in the art to employ the controller (85) for controlling a different colors (light sources) in Reference of Hed in the lighting system of Reference of Robinson et al to achieve the claimed invention. As disclosed in Reference of Hed, the motivation for the combination would be obtained the high performance for the under water lighting system.

However, both Robinson and Hed do not disclose that, a socket having a screw type light socket. Naur discloses that, a ground support lamp comprises a socket having a screw (see abstract) and also discloses that, a lighting fixture is suitable for surface

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lighting and installation in around swimming pool. See col.6, lines 65-67 to col7, lines 1-3.

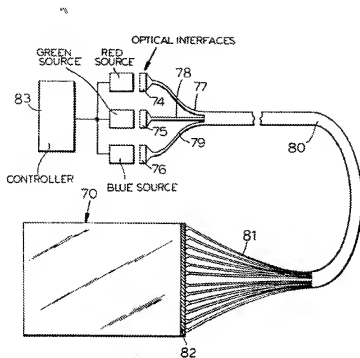
It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a screw type light socket as that suggested by Nau in the lighting system of Robinson et al and Hed in order to gain the commonly understood benefits of such adaptation, such as simplified operation and support the wall or any environment.

Regarding claim 19, Robinson et al disclose at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa, and an interface coupled to the at least one light source, the interface being adapted to engage mechanically and electrically with a conventional light socket supported by the one of the pool and the spa, and the interface is adapted to engage mechanically and electrically with type light socket . Col.3, lines 63-67 and col.4, lines 7-8 and col.6, lines 20-26).

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Robinson et al do not teach that, the light source is LED and wherein the conventional light socket includes a multiple pins type light socket.

Hed discloses a controller (83) coupled to the at least one light source (74, 75 and 76) to control radiation output by the at least one light source(LED) See figure 5 below and col.11, lines 1-26.

**FIG.5**

It would have been obvious to one having ordinary skill in the art to employ the controller (85) for controlling a different colors (light sources) in Reference of Hed in the lighting system of Reference of Robinson et al to achieve the claimed invention. As disclosed in Reference of Hed, the motivation for the combination would be obtained the high performance for the under water lighting system

However, both Robinson and Hed do not disclose that, a socket having a screw type light socket.

Naur discloses that, a ground support lamp comprises a socket having a multi-pin(see abstract) and also discloses that, a lighting fixture is suitable for surface lighting and installation in around swimming pool. See col.6, lines 65-67 to col7, lines 1-3.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ the multi-pins_type_light socket as that suggested by Nau in the lighting system of Robinson et al and Hed in order to gain the commonly understood benefits of such adaptation, such as simplified operation and support the wall or any environment.

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4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Robinson et al (U.S Patent No: 4,661, 893) in view of Hei (U.S. Patent No. 5,301,090) and Che et al (U.S. Patent No. 5,636,303).

Regarding claim 20, Robinson et al disclose all the limitations "at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa. See figure 3 above.

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Robinson et al do not teach that, the light source is including a LED and wherein the at least one light source is adapted to generate radiation of different colors without requiring the use of a color filter.

Hed discloses a controller (83) coupled to the at least one light source (74, 75 and 76) to control radiation output by the at least one light source(LED) See figure 5 below and col.11, lines 1-26.

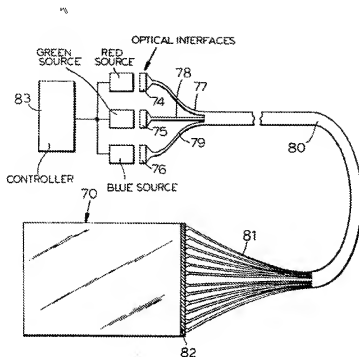


FIG.5

It would have been obvious to one having ordinary skill in the art to employ the controller (85) for controlling a different colors (light sources) in Reference of Hed in the lighting system of Reference of Robinson et al to achieve the claimed invention. As disclosed in Reference of Hed, the motivation for the combination would be obtained the high performance for the under water lighting system

However, both Robinson and Hed do not disclose that, wherein the at least one light source is adapted to generate radiation of different colors without requiring the use of a color filter. Che et al disclose wherein the at least one light source is adapted to

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generate radiation of different colors without requiring the use of a color filter. Col. 3, lines 65-67 to col.4, lines 1-2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the at least one light source is adapted to generate radiation of different colors without requiring the use of a color filter disclosed in Reference of Che et al in the lighting system of Robinson et al and Hed to achieve the claimed invention. As disclosed in Reference of Che et al, the motivation for the combination would be obtained the light source without use filter for compactness and low cost.

Response to Arguments

Applicant's arguments, "REMARKS", filed 12/7/07, with respect to claims 12, 14-15, 17-20, 23-25, 27-36, 38-62 and 74-75 have been fully considered. However, the newly discovered reference(s). Rejections based on the newly cited reference(s) follow above rejections.

Allowable Subject Matter

5. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claims 12-15, 23-25, 33-36, 38, 39-41 and 42-53, 55-60 and 74-75 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art does not teach that, at the at least one light source including at least one LED and being positioned so as to illuminate the liquid with substantially unguided

radiation, wherein the one of the pool and the spa has a range of typical liquid levels of the liquid during use, and wherein the at least one light source is adapted to be disposed below the range of typical liquid levels; and an encapsulant to protect the at least one light source from moisture" recited in claims 12.

Prior art does not teach that, the light source is including a LED and the light socket includes a wedge type socket for applying the pool and spa in combination with all limitations recited in independent claims 17, 42, 61-62.

Prior art does not teach that, at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa, the at least one light source including at least one LED, wherein the at least one LED includes at least two independently controllable LEDs" recited in claim 23.

Prior art does not teach that, the at least one light source adapted to be supported by one of a pool and a spa to illuminate a liquid contained in the one of the pool and the spa, the at least one light source including at least one LED, wherein the at least one light source includes at least two independently controllable light sources recited in independent claim 24.

Prior art does not teach that, at least one controller coupled to the at least one light source to control radiation output by the at least one light source, and at least one storage device, coupled to the at least one controller, to store at least one illumination program, wherein the at least one controller is adapted to execute the at least one illumination program so as to control the radiation output by the at least one light source in combination with all limitations recited in independent claim 33.

Prior art does not teach that, wherein the at least one controller includes at least a first controller coupled to the first light source and a second controller coupled to the second light source, and wherein: each of the first controller and the second controller is independently addressable; and the first controller and the second controller are coupled together to form a networked lighting system recited in claim 34.

Prior art does not teach that, a light fixture for one of a pool and a spa, comprising: at least one LED; and an interface coupled to the at least one LED, the interface being adapted to engage mechanically and electrically with the light socket supported by the one of the pool and the spa, wherein the one of the pool and the spa has a range of typical liquid levels of the liquid during use, wherein the light socket is located below the range of typical liquid levels, and wherein the light fixture further includes an encapsulant to protect the at least one LED from moisture and wherein the encapsulant is in contact with at least the at least one LED recited in claim 39.

Prior art does not teach that, the at least one controller outputs at least one control signal to the at least one light source to control the radiation output by the at least one light source; and the at least one control signal includes at least one variable analog signal recited in dependent claim 31.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571)

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272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner

Minh A

Art Unit 2821

2/28/08

/Douglas W Owens/
Supervisory Patent Examiner, Art Unit 2821
March 3, 2008